

NEW ACMAEODERA AND CHRYSOBOTHRIS
FROM THE SOUTHWEST
(Coleoptera-Buprestidae)

By MONT A. CAZIER
University of California, Berkeley

My thanks and appreciation are due the following friends who loaned and exchanged material and gave assistance in the study of the species treated herein: Dr. E. C. VanDyke, C. W. Leng, R. P. Allen, F. R. Platt, A. T. McClay and F. H. Parker.

ACMAEODERA HUMERALIS Cazier, new species

Small, robust, flattened; irregularly clothed throughout with squamae and short stout hair; head, prothorax and elytral margins cupreous-black, elytral disk dark rusty-red, humeri black; beneath uniformly black. Head shallowly, densely punctate, each puncture with a moderately long, stout, squamiform hair; clypeus emarginate; antennae with fourth and succeeding segments uniformly wider than third. Pronotum unicolorous, scarcely wider than elytra, shallowly cribrate, sides evenly rounded, widest at basal third, front and hind margins sinuate, base with a deep foveae on each side at base of well defined oblique lateral sinus, disk moderately clothed with elongate, narrow, squamiform pile, sides with dense stout squamae. Elytra sinuate just posterior to well defined humeral umbone, as wide at apical third as at base, side margins deeply serrate and visible only at apical half, apices blunt and flattened, each elytron rounded and serrate to apical third, a shallow transverse furrow extending across disk at basal third; elytral striae shallowly punctate, striae one to six continuous from base to apex, stria seven extending only to apical third, interspaces one to five with squamiform hair that are shorter and stouter at base, remainder of rows with uniform slender squamiform hair throughout, interspaces three and five with double set of squamae at base, row three more heavily squamose throughout than others; each elytron with narrow black border which is widest at base, disk dark rusty-red. Prosternum truncate in front. Beneath rather densely squamose throughout; last ventral segment with a single apical border.

Length 4 mm., width 2 mm.

Holotype in the author's collection, one paratype in the collection of Mr. Frank H. Parker. Type locality Amboy, San

Bernardino Co., California, April 30, 1937. The two specimens from which this species is described were collected by the author on the flowers of *Geraea canescens*.

This species is most closely related to *insignis* and *rossi* of the species thus far described but is very distinct from either in many ways. It differs from both of these in the discal color and the unbroken extent of this coloration, by the smaller size and more robust shape. From *insignis* it can be further distinguished by the presence of wider squamiform hairs which are more densely arranged on the front of the head, the sides of the prothorax, the base of the elytra and the under surface. In *insignis* the pile is less squamiform and more sparsely arranged, the elytra having no squamae at the base as there are in *humeralis*. The apices of the elytra are much more flattened in *humeralis* and the lateral margins visible for a greater portion of their length. The humeral depression is more pronounced in *humeralis* than in *insignis*. From *rossi* it can be distinguished by its smaller size, the smaller squamiform hair and its arrangement. In *rossi* the elytra are uniformly clothed with squamae, which are more densely arranged on the head, pronotum and under-surface.

Three specimens belonging to the *insignis* group of the truncate species that were collected at Gila Bend, Arizona, April 25, 1935, were loaned to the author by Mr. F. H. Parker and are here considered as *insignis*. There is a slight difference in the character of the markings which are continuous instead of spotted as in typical *insignis*, but inasmuch as this character is variable it seems to me that these Arizona specimens properly belong with it.

In H. C. Falls' key (1899) to the species belonging to the truncate group, *insignis* and *gemina* are separated from all the other species by the antennae which have the fourth segment larger than the second or third and about the same size as the fifth. In this key it is impossible to reach *cribricollis* which properly belongs in the section with *insignis* and *gemina* as *cribricollis* is placed according to Fall in another group, that is with those species having the fifth segment of the antennae suddenly broader than the fourth. The female of *cribricollis* has the fourth segment longer and slightly more expanded apically than the third whereas the male has the fourth segment longer and about three times as broad as the third. When properly keyed *cribricollis* will be associated with *gemina* as the vestiture of the under surface is hairy. It can easily be separated from that species however by its elongate form, larger size, the longer pile on the dorsal surface and by the markings which are transverse rather than longitudinal. As far as I know *insignis*, *rossi*, *humeralis*, *cribricollis* and *gemina* are the only species of North American *Acmaeodera* having the antennae as described above.

CHRYSOBOTHRIS PLATTI Cazier, new species

Narrow, subcylindrical, uniformly brilliant sericeous green with faint cupreous tinge in the disk of each elytron. Head deeply somewhat densely punctate on vertex, each puncture separated by its own width, gradually more shallowly and densely punctate toward clypeus, anterior punctures giving rise to moderately long white hair, interspaces sericeous, prominent median carinae becoming obsolete at middle of front, eyes widely separated; clypeus cribrately punctured, each puncture containing a moderately long white hair, elevated emarginate line extending from outside angles to middle of base, front margin truncate, middle portion slightly darker than remainder, basal clypeal impression shallow; antennae cupreous-green at base becoming cupreous-black toward tip, acutely serrate, the lower edge not greatly broadened, third segment as long as fourth and fifth combined. Pronotum glabrous, twice as wide as long, widest at apical third, sides evenly arcuate, disk sparsely, irregularly, shallowly, punctate, punctures separated by two to five times their own diameters, side margins shallowly, densely punctate, without callosities, interspaces sericeous. Elytra glabrous, slightly wider than pronotum, parallel to apical third, apices separately rounded, not completely covering abdomen, margins feeble serrate; disk convex, with faint trace of four costae, the first extending only to basal third, the second to apices, the third and fourth united at apical fourth and proceeding to apices; basal fovea deep; surface rather densely, irregularly, shallowly punctate, many punctures transversely connected by shallow impressions, interspaces sericeous. Beneath uniformly green; sparsely, shallowly, asperately, punctured; abdominal segments without lateral umbone, the angles prominent, last segment with prominent entire apical margin, lateral margin not serrate or interrupted; anterior femur with a short broad tooth, serrulate on its distal edge.

Length 12 mm., width 4 mm.

Holotype female in the author's collection. Type locality Snow Creek, Riverside Co., California, June 8, 1936. Collected on Ephedra sp. by Mr. F. R. Platt after whom I take great pleasure in naming the species.

MALE: Head as in the female except that the front is more densely, shallowly punctate; antennae as in the female. Pronotum evenly arcuate, widest at about middle; surface with shallow confluent punctures, anterior portion of disk with several transverse, arcuate, sericeous callosities, median line more or less prominent. Elytra as in the female except for the slightly more cupreous color and the much less conspicuous costae. Beneath with larger more densely placed asperate punctures; terminal abdominal segment with lateral ridge, apical margin obtusely emarginate.

Length 10 mm., width 4 mm.

Allotype male in the collection of Mr. A. T. McClay. Collected at Whitewater, Riverside Co., California, June 28, 1937, by Mr. McClay and very kindly loaned to the author for study.

The female of this species will key out in G. H. Horn's key (1866) to group VII due to the presence of faint but definite costae whereas the male will key to group VIII because of the almost complete lack of costae. After a careful study of the species in both groups the author is inclined to place *platti* with those species in group VIII which would normally be without elytral costae but which sometimes have evidences of them as in *atrifasciata*. Within the group *platti* is most closely associated with *atrifasciata* and *ulkei* from which it can be at once distinguished by the following characters: the more sericeous appearance, the lack of transverse black fasciae, the shape of the pronotum, the truncate clypeus, color of front of head and under surface which are green rather than dark cupreous, the lack of pronotal callosities in the female, the acute serrations of the antennae in the female, the lack of bipectinate antennae in male, the much less acute tooth on front femur, and the narrow shape.

The only other members of group VIII are *prasina* and *socialis*. From *prasina*, *platti* differs by being larger, having the apical end of abdomen exposed, the pronotum evenly arcuate, the occiput with a carina, clypeus truncate, presence of elytral costae in the female, deep basal fovea, and the green undersurface. From *socialis* (Arizona) *platti* can be distinguished by the following characters: narrower form, sericeous green color, lack of elytral dark spots, more irregular, deeper punctures on head, lack of deep transverse and vertical impressions on front of head, by truncate rather than deeply sinuate front margin of clypeus, shape of pronotum which is less convex dorsally and more rounded on the sides, elytral punctures deeper and more dense, beneath more convex, apical margin of last abdominal segment without lateral projections.

CHRYSOBOTHRIS ALLENI Cazier, new species

Moderately robust, convex; brilliant cupreous-green above, greenish-blue beneath. Head with vertex glabrous, shallowly, confluent punctate, median carinae prominent, extending to small shallow impression on front between eyes, anterior two-thirds of front with moderately deep, irregular, dense, confluent punctures each of which gives rise to a short white hair; clypeal punctuation like the anterior portion of front but with the hairs longer, front margin shallowly, obtusely emarginate; antennae simple, serrate, the lower edge broader than usual, inner angles acute. Pronotum glabrous, nearly as wide as elytra, twice

as wide as long; sides obtusely angulate behind middle, apical portion weakly arcuate, basal portion straight or slightly emarginate; surface with middle of disk slightly impressed, entire surface rugosely-punctate, the punctures varying in depth, interspaces nearly smooth. Elytra glabrous, finely serrate, side margins straight, gradually widened to apical third and then arcuately narrowed to apices which are separately rounded and do not cover abdomen; disc of each elytron uneven, base densely punctate, asperate, transverse impressions connecting many of the punctures, apices irregularly, shallowly punctate, interspaces sericeous, shining; basal fovea deep. Beneath rather densely, asperately punctate; lateral margins of last ventral segment not serrulate, apical margin obtusely serrulate, ante-apical ridge obscure; anterior femur with an acute, unserrulated tooth.

Length 12 mm., with 5 mm.

Holotype female in the author's collection, one female paratype in the collection of Mr. R. P. Allen. Type locality 20 miles east of Tuba City, Arizona, July 22, 1937. Collected by R. P. Allen after whom I gratefully name the species.

MALE: Head as in the female; clypeus more deeply emarginate; antennae bipectinate from the fourth segment, anterior branches shorter than posterior ones, terminal segment bifurcate. Pronotum less densely punctate than in female and more cupreous; side margins evenly, arcuately, rounded, widest about the middle. Elytra as in the female except for a brilliant cupreous tinge. Beneath as in female except for last ventral segment which is distinctly, obtusely emarginate.

Length 11.5 mm., width 5 mm.

Allotype male in the author's collection, one male paratype in the collection of Mr. R. P. Allen. Collected at the same locality as holotype.

This distinct species belongs definitely in Horn's group VIII and within the group is most closely allied to *atrifasciata* and *ulkei*. It differs from these species by the deeper, more densely punctate head, pronotum and elytra, the absence of the three black fasciae which are, however, represented in the female paratype by one obscure apical and subapical dark spot in the middle of each elytron, and the green color of the undersurface. From *platti* this species can be separated by the lack of sericeousness, the robust shape, the emarginate clypeus, the more deeply and densely punctate head, pronotum and elytra, the bipectinate antennae of the male, the enlarged antennae of the female, and the acute tooth on the anterior femur. From *socialis* (Arizona) *alleni* can be distinguished by its much deeper, more dense sculp-

turing throughout, lack of elytral dark spots, by the front margin of clypeus which is obtusely emarginate rather than deeply sinuate as in *socialis*, lack of frontal impressions on head, rounded rather than subparallel side margins of pronotum, by having the pronotum as wide as humeri of elytra, more convex beneath, tooth on the front femur more acute and by the lack of the lateral projections on the apical margin of the last abdominal segment.

The genus *Knowltonia* was described by Fisher (Proc. Ent. Soc. Wash., vol. 37, June 1935, pp. 117-118) to include what he thought was the only known buprestid having biramose antennae. This, however, was not the case as Horn in his revision (1886) described the male of *Chrysobothris atrifasciata* which also has biramose antennae. Inasmuch as several species of *Chrysobothris*, that do not have the male antennae biramose (*prasina*, *platti* and possibly *ulkei*), are apparently closely related to *atrifasciata* and *biramosa* in many other characters I think that *Knowltonia* should be regarded as a synonym of *Chrysobothris*. For the present *biramosa* Fisher will have to stand as distinct as I have not been able to study a specimen and there was no comparative discussion given in the original description. It does, however, appear to be closely related to *ulkei* and may possibly be the male of that species. From *alleni* it can be distinguished by its brownish-cupreous color above and beneath, smaller size, male pronotum being widest behind the middle, the less densely rugose pronotum, presence of violaceous black elytral markings (comparison made from original description only).

